

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1. - 22. (Cancelled)

23. (Previously Presented) A circulation catheter comprising:

a catheter body having a proximal end, a distal end, and a lumen therebetween,
the lumen forming a distal opening at the distal end of the catheter body;

a macerator at the distal end of the catheter body, wherein the macerator is self-expandable;

an expansible cage surrounding the macerator;

an impeller rotatably disposed in the lumen of the catheter body to aspirate materials generated by the macerator from the distal end to the proximal end of the catheter body; and

a clearing element disposed at the distal opening of the catheter body between the macerator and the impeller to prevent the materials from accumulating at the distal opening.

24. - 26. (Cancelled)

27. (Previously Presented) A circulation catheter as in claim 23 wherein the macerator is configured to engage at least a portion of the expansible cage.

28. (Previously Presented) A circulation catheter as in claim 23, the impeller comprising a helical rotor having a distal end and a proximal end extending at least partially over an outer surface of a shaft, wherein a distal portion of the shaft extends beyond the distal opening of the catheter body.

29. (Original) A circulation catheter as in claim 28, wherein the macerator comprises a distal end and a proximal end, and wherein the distal end of the macerator is fixed to

the distal end of the shaft, and wherein the proximal end of the macerator extends into the distal opening of the catheter body to form the clearing element.

30. (Original) A circulation catheter as in claim 28, wherein the rotor comprises a helical coil, and wherein the distal end of the helical coil is unattached to the shaft to form the clearing element.

31. (Original) A circulation catheter as in claim 28, wherein the clearing element comprises a cutting member coupled to the impeller at or near the distal opening.

32. (Original) A circulation catheter as in claim 31, wherein the cutting member is attached to the macerator.

33. (Original) A circulation catheter as in claim 31, wherein the cutting member is attached to the shaft.

34. (Original) A circulation catheter as in claim 31, wherein the cutting member is attached to the helical rotor.

35. (Original) A circulation catheter as in any of claims 29-31, wherein the shaft is rotated to induce aspiration through the catheter body lumen, and wherein the clearing element spins relative to the catheter body to clear the distal opening of the catheter body as the shaft is rotated.

36. - 43. (Cancelled)

44. (Previously Presented) A circulation catheter as in claim 23, wherein the macerator expands and collapses in response to expansion of the cage.